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ABSTRACT

The meaning and measures of structural unemployment are discussed in this paper. The first section examines the linkages between the concepts of cyclical, frictional, seasonal, and structural unemployment. The next sections analyze measures of structural unemployment based on the view that structural unemployment is substantial during times of high economic activity. Using the concept, the paper derives the distribution of the structurally unemployed. (Although the incidence of structural unemployment is higher among blacks, young, and ill-educated workers, the majority of the structurally unemployed is white, adults, and high school graduates.) The paper concludes by discussing the implications of the structural unemployment numbers for employment and training programs and for other government policies. (JH)

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Concepts and Measures of Structural Unemployment

Technical Analysis Paper No. 64

U.S. Department of Labor
Ray Marshall, Secretary

Office of the Assistant Secretary for
Policy, Evaluation and Research
Arnold Packer, Assistant Secretary

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ABSTRACT

Policymakers increasingly see structural unemployment as the most important and most difficult labor market problem. Yet, few discussions have appeared on the precise meaning and appropriate measure of structural unemployment. This paper attempts to improve current discussions of the structural unemployment problem. The first section shows that linkages between concepts of cyclical, frictional, seasonal, and structural unemployment make any precise definition difficult. Nevertheless, the next sections analyze measures of structural unemployment based on the common view that structural unemployment is substantial unemployment during good times. Using this concept, the paper derives the distribution of the structurally unemployed. Although the incidence of structural unemployment is higher among black, young, and ill-educated workers, the majority of the structurally unemployed are white, adults, and high school graduates. The paper concludes by discussing the implications of the structural unemployment numbers for employment and training programs and other government policies.

Summary

The United States has now experienced nine years of excessive unemployment. Not since 1969 has the country managed to achieve unemployment rates significantly below 5%. Now, after nearly three years of economic recovery, we still find 6% of the nation's labor force unemployed. Much of our recent poor performance has been due to the deep 1974-75 recession and to earlier recessions. But, many now believe that we will have to accept relatively high unemployment rates even in periods of high economic activity. Why? A frequent answer is structural unemployment.

The common view of structural unemployment is that the economy generates too few jobs suitable to employ all the unskilled or inexperienced workers who want jobs. This employment gap persists when the economy is at the highest levels achievable without excessive inflation. Inflationary pressures may arise well before the economy reaches a level that would absorb those now viewed as structurally unemployed. Structural policies such as training, relocation, or special targeted forms of job creation are thought to be necessary if the structurally unemployed are not to continue to suffer significant unemployment.

This paper examines the meaning of structural unemployment and derives some measures of it. The first section shows that the structural unemployment concept is too ambiguous to yield precise measures. Structural unemployment overlaps conceptually with other categories of unemployment such as cyclical, frictional, and seasonal. Nevertheless, it is worth measuring the commonly held notion of structural unemployment, which we take as meaning substantial unemployment in relatively good times. Our choice of "good times" was constrained by data availability and by the generally poor employment conditions of recent years. Our measures come from data on two periods: 1973-March 1974 and 1977-March 1978.

We first determine whether some individuals experience substantial unemployment in good times or whether the unemployment is spread relatively evenly across workers. We find substantial inequality, as noted in (1).

> (1) Most unemployment experienced in good years is borne by those with substantial unemployment over the year. About 75 percent of unemployment occurs among those unemployed 15 weeks or more during the year. Only 17 percent of workers experienced any unemployment during 1977.

The next task is to examine the composition of those suffering substantial unemployment in good times. The results derived from 3 unemployment measures and from 2 time periods all lead to conclusion (2):

(2) Although the incidence of structural unemployment is highest among nonwhites, youth, and those with less than 12 years of schooling, the majority of the structurally unemployed are adults, whites, and high school graduates.

A third issue is the work experience of the structurally unemployed. Are those who experience substantial unemployment in good times unable to find any job? Or do most work for much of the year?

(3) About three-quarters of the structurally unemployed worked in 1977, averaging about 20 weeks of employment over the year. Thus, the absolute inability to find a job affects only one-quarter of the structurally unemployed.

A fourth important issue is the relationship between structural unemployment and low income status. We examine how many of the structurally unemployed come from low income families and the extent to which structural unemployment accounted for low income status. We find:

(4) The majority of the structurally unemployed do not live in poor or near-poor families. Further, structural employment is a less pervasive cause of low income status than is low weekly earnings.

In the concluding section on policy, we distinguish between two groups of structurally unemployed. Many of the structurally unemployed work at adequate paying jobs part of the year, have graduated high school, and come from moderate or high income families. Since these workers are not the appropriate targets for government employment and training

programs, other efforts should be directed at lowering their unemployment. These could include demand stimulus, reducing seasonality and relocation allowances.

The second group of structurally unemployed come from low income families and tend to have low education and low earnings capacity. These workers deserve priority in government employment and training programs. Unfortunately, the pool of low earners from poverty or near-poverty income families is enormous, well above the numbers of structurally unemployed. To raise the earnings capacity of a large share of these workers will require years of successful public and private efforts.

I. What does structural unemployment mean?

Structural unemployment is frequently defined as what is left after taking account of frictional and cyclical unemployment. Frictional unemployment results from the natural movement of people between jobs and in and out of the labor force. The measured unemployment that reflects this normal labor turnover has not generally been construed as a social problem. Cyclical unemployment is caused by the loss of jobs during economic downturns or more generally by inadequate aggregate demand. Although cyclical unemployment is a social and economic problem, it is believed that sufficient stimulus to aggregate demand will eliminate it. In contrast, structural unemployment has long been viewed as the unemployment hardest to solve, because the remedies require structural changes in the workforce, in the job mix, or in the process by which jobs and workers are matched.

The idea behind the structural unemployment concept has changed somewhat over the last twenty years. In the late 1950's and early 1960's, structural unemployment connoted technological unemployment; it was perceived as a problem created by unprecedented technological progress. The view was that changes in technology were generating demands for increasingly sophisticated skills which many workers could not supply. The structural unemployment idea also contained

a geographic component; regions such as Appalachia had too little economic activity to create enough jobs and their residents were too unskilled or otherwise immobile to find jobs elsewhere.[1]

The concerns over technological unemployment subsided in the face of several years of unemployment below 4 percent. In those years, many of the unskilled found jobs and were upgraded in a labor scarce economy. Now, after the experience of several years of high aggregate unemployment rates and high rates of inflation, the concern about structural unemployment has become more pronounced than ever. Today, however, the emphasis has shifted away from the simple fears of technological obsolescence and geographical immobility of certain workers.

Analysts see structural unemployment as coming from a variety of barriers that traditional market forces have not overcome. That is, wages and prices are not sufficiently flexible to eliminate the structural mismatches between workers and jobs. Some structural barriers are closely associated with the markets that exhibit high unemployment. For example, the minimum wage may directly affect employment among low skill workers. Other structural problems may be associated with markets that do not exhibit high unemployment, such as energy or medical care. These markets,

however, may create inflationary pressures that are transmitted throughout the economy. To the degree that these inflationary pressures constrain aggregate demand and, in turn, cause unemployment among low skill workers, the appropriate term for the problem is structural inflation and not structural unemployment.

As a conceptual taxonomy of general causes and as a guide to measurement, decomposing unemployment into cyclical, frictional, and structural components has important limitations. In particular, structural unemployment clearly overlaps with the other categories. The overlaps go beyond definitional problems; they reflect interactions among the causes of various types of unemployment. The result is that the concepts as they currently exist do not permit any definitive way of distinguishing empirically one type of unemployment from another.

Consider the interactions between structural and cyclical unemployment. Currently, many argue that high aggregate demand could induce employers to hire a large portion of low skilled unemployed workers, but that unfortunately such levels of aggregate demand would generate intolerable rates of inflation. In one sense, this view implies that the observed unemployment is cyclical, not structural, since aggregate demand stimulus could reduce

unemployment. On the other hand, to the extent structural barriers are responsible for the fact that inflation accelerates before the economy reaches full employment, the problem is structural, not cyclical.

This issue is quite problematic, because of controversy concerning the connections between aggregate demand, inflation, and unemployment. Most analysts argue that if unemployment is pushed too low, the labor market becomes too tight, thereby generating inflationary pressures. The controversy centers on how low the critical rate of unemployment is. The rate of unemployment that is most often used to indicate labor market tightness is the rate for prime age males. Any rate of unemployment for prime age males corresponds to some overall rate of unemployment for the economy depending upon the relative size of the other groups in the labor market and their unemployment situation. Over the last twenty-five years, the composition of the labor force has shifted toward higher shares of females and teenagers. These groups change jobs and move in and out of the labor force frequently, and consequently show especially high rates of unemployment. Therefore, according to this argument, a low unemployment rate for prime age males is consistent with a higher overall unemployment rate than was the case in the past.

Several factors also blur the distinction between structural and frictional unemployment. Short-run variability in the demand for output often causes layoffs or permanent dismissals rather than adjustments in wages and prices that might maintain more stable employment.[3] This, in turn, results in short periods of unemployment for the workers laid off or dismissed. When the worker finds another job quickly, we tend to view the unemployment as frictional. However, the fact is that workers with low weekly earnings tend to experience these bouts of unemployment much more frequently than high earners. Job security and employment stability are generally associated with better paying jobs. To the extent that particular workers chronically suffer such unemployment between jobs, their unemployment would seem to qualify as structural. In fact, Piore and others view volatility in employment as a primary symptom of structural unemployment.[4]

Seasonal unemployment also overlaps conceptually with structural unemployment. Are workers who lose jobs for seasonal periods structurally unemployed? In one sense, they are, since some structural change within the industry would be required to generate year-round employment and the workers do not find off-season jobs. But, should we not distinguish between the construction worker with high annual earnings who chooses high hourly wages and seasonal unemploy-

ment and the migrant workers for whom a low wage, high unemployment position is the best opportunity? Both raise policy concerns, but of very different kinds. In the former case, restructuring unemployment insurance might help; in the latter, upgrading jobs and providing other part-year employment might be beneficial.

The varied nature of the structural unemployment concept extends to the identification of causes. The problems may lie with the individual, the group, or the structure. The usual focus is the individual. Common diagnoses of structural unemployment state that certain individuals lack the skill, education, work habits, or attitudes to compete for or to hold the available jobs. Serious unemployment problems can affect the individual regardless of his or her location, race, age, sex, or family status.

The group is another common focus. Certain groups such as youth, blacks, or welfare recipients suffer much higher unemployment rates than others. Part of the reason is simply that those in disadvantaged groups have low skills and other debilitating individual characteristics. But, other reasons are group-related and transcend the problems associated with such shared characteristics as low skill and inexperience. The use of statistical discrimination by employers is a good example: because many individual youth are unstable workers, the employer may choose to avoid

hiring youth in general.[5] Where problems are group-related, particular individuals may not suffer chronic unemployment. However, some structural aspect of the labor market still produces chronically high unemployment rates for the group as a whole.

In general, these individual and group problems must interact with specific structures in the economy to cause chronic unemployment. Otherwise some adjustments, for example in wages, hiring and upgrading, or in technology, could eliminate the unemployment. As noted above, the structures may be close to or distant from the markets for those experiencing unemployment. The most often noted structures are: 1) wage rigidities, due to legal and social minimum wages, other legal and institutional restrictions, as well as social factors such as custom and equity, and union power; 2) technological rigidities that limit the mix of skilled and unskilled positions; 3) unemployment insurance and welfare programs, which provide incentives to artifically report unemployment and to prolong spells of actual unemployment; 4) demographic imbalances, such as the bulge of youths entering the labor force 18-22 years after the baby boom; 5) geographic shifts, such as the more rapid movement of jobs than people away from the

Northeast and from large industrial cities; and 6) discrimination that impedes the upward mobility of certain groups.

An evaluation of the importance of various structures is beyond the scope of this paper. We attempt the more modest task of identifying the structurally unemployed. This measurement task is not fully achievable given the lack of specificity of the concept. In addition to the problems raised above, the notion that unemployment is involuntary and being out of the labor force is voluntary is subject to doubt. Nevertheless, we move forward to approximate structural unemployment by identifying the workers who experience substantial unemployment in good times. The next section presents data on those who are structurally unemployed on the basis of several unemployment measures. In the final section, we review the findings and discuss their importance for government employment and training programs.

II. Unemployment in Good Times

Workers who bear substantial unemployment in high employment periods are the group most people have in mind when they speak of the "structurally unemployed". As noted above, neither this definition nor others are precise and unambiguous. Nevertheless, we can see what the common view implies if we examine the patterns of unemployment in good times. Our strategy is to look at a variety of unemployment measures.

In presenting the unemployment data, we focus on four sets of questions:

> (1) What is the distribution of unemployment over the labor force? Do most workers bear a small amount of unemployment, or does some small share of workers experience most of the unemployment?
>
> (2) Which demographic groups account for the greatest numbers of those experiencing substantial unemployment--groups with the highest unemployment rates, as black youth, or other groups? Which groups experience the highest incidence of substantial unemployment?
>
> (3) What is the typical work experience of those with substantial unemployment? How much do they work over the course of a year? In what kinds of jobs?
>
> (4) To what extent does substantial unemployment go together with and contribute to poverty and near-poverty income levels?

To address these questions, we need a nationally representative data source that contains information on the employment, unemployment, earnings, and income of workers

over the course of at least one year. Further, the data must come from at least one period of relatively high employment. The accessible sources that meet these requirements and cover relatively recent periods are the March 1974 and March 1978 Current Population Surveys (CPS). The CPS is a monthly survey of 56,000 households.[6] Each March CPS includes a special supplement covering the work experience and income of all household members during the prior year.

With the two CPS's, we are able to examine the unemployment patterns of some workers during calendar 1973 and March 1974 and of other workers during calendar 1977 and March 1978. The aggregate unemployment rates for these four periods were 4.9 percent, 6.2 percent, 7.0 percent, and 6.2 percent. Some may question whether 1977, at 7.0% unemployment, can be considered a high employment year. We certainly do not view 7.0 percent as the lowest rate consistent with nonaccelerating inflation. However, the 1977-March 1978 data are worth examining closely for several reasons: First, they are the most recent data available; second, it is commonly believed that by mid-1977 and March 1978 the remaining unemployment was largely frictional or structural; and finally, the average 1977 unemployment rate derived from the March 1978 CPS was about 6 percent, a rate many consider within the high employment range.[7]

A. The Distribution of Unemployment

How unemployment is shared among workers is of prime importance in identifying those with substantial unemployment. Were all the unemployment experience during the year equally shared, all unemployment would be short-term and it would not be sensible to identify a group of workers as "the structurally unemployed". On the other hand, if nearly all unemployment affected only a small group of workers, it would be clear that these workers were the structurally unemployed.

What is the actual situation in high employment periods? How equal is the distribution of unemployment? The usual analyses of the distribution of unemployment use the monthly unemployment concept and deal with the share of unemployed who are young, old, white, black, men, and women. Since in a given month a person is either unemployed, employed, or not in the labor force, the distribution of unemployment among workers is entirely concentrated among those unemployed that month. However, over a full year period, it does make sense to consider the distribution of unemployment among workers. With data from the March 1978 CPS on the precise number of weeks employed, unemployed, and not in the labor force experienced during 1977, we can measure the equality in unemployment over the labor force.

In 1977, according to the March 1978 CPS, the labor force worked 4.5 billion weeks and experienced 293 million weeks of unemployment. If unemployment had been equally shared, the average full-year member of the labor force would have worked about 49 weeks and been unemployed about 3 weeks. The actual situation shows far less equality in the experience of unemployment.

The best way to view the inequality of the unemployment burden is first to measure the share of workers who experienced unemployment and next to examine the distribution of unemployment among those unemployed at least one week. We immediately find substantial inequality; over 83 percent of workers suffered no unemployment, leaving the full burden falling on the other 17 percent. Further, even among the unemployed, the distribution of unemployment was highly unequal. To illustrate the inequality of unemployment among those with some unemployment, we present in Figure 1 a graph plotting the cumulative share of unemployment borne

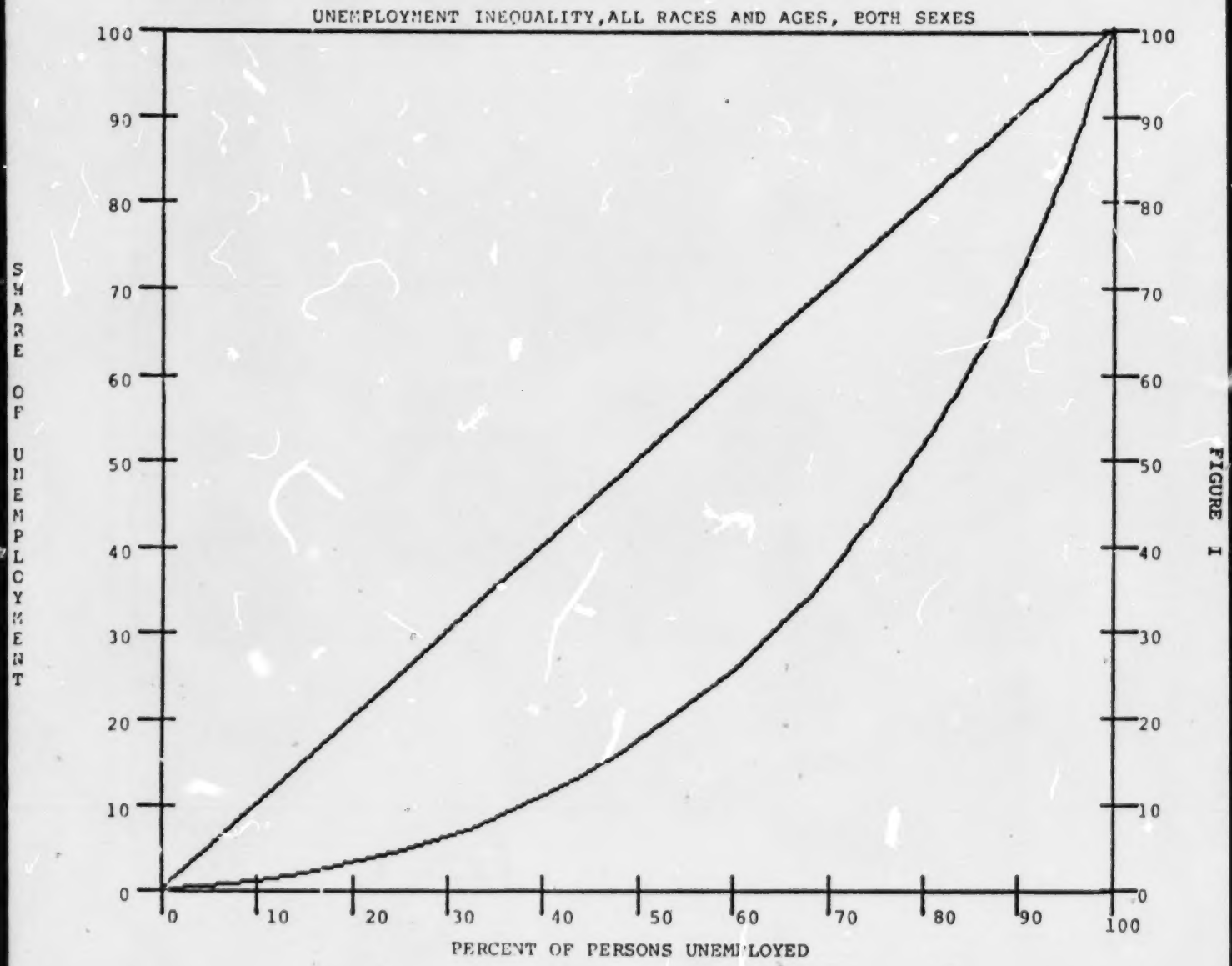
UNEMPLOYMENT INEQUALITY, ALL RACES AND AGES, BOTH SEXES
SHARE OF UNEMPLOYMENT
PERCENT OF PERSONS UNEMPLOYED
0
10
20
30
40
50
60
70
80
90
100

FIGURE 1

by the share of workers experiencing unemployment, ranked by weeks of unemployment -- an unemployment Lorenze Curve[8]. The 45 degree diagonal depicts full equality. Note that the actual distribution displays substantial inequality. The 20 percent of persons with the most unemployment accounted for about half of all unemployment. This 20 percent of workers is the group with 26 or more weeks of unemployment. If we define the long-term unemployed as those workers who face 15 or more weeks of unemployment, we find that the long-term unemployed suffer three-quarters of total unemployment.

These data show a very different picture than data based on monthly averages. In the average month during 1977, only 28% of the unemployed had faced 15 or more weeks of continuous unemployment. This figure and similar ones have led some to conclude that most unemployment faced by the general population is relatively short-term.[9] The annual data indicate the reverse, that most unemployment is borne by a relatively small group of those experiencing unemployment. To reconcile the data, we must first remember that the monthly data refer to the lengths of unemployment in the current spell while the annual data show the entire amount of unemployment from all spells during the year. Second, we must distinguish between the duration of unemployment of the average unemployed person (which is short)

and the duration of unemployment among members of the group accounting for the average week of unemployment (which is long).

Recent research on labor force transitions strengthens the case for using each worker's total weeks of unemployment over the years instead of relying on the duration of specific spells of unemployment. Clark and Summers found that a large fraction of spells of unemployment either begin or end with a spell outside the labor force.[10] Their work calls into question the usual interpretation of high turnover as meaning workers frequently move in and out of jobs. It turns out that much of the turnover occurs because some workers who cannot find jobs over a long period report themselves as outside the labor force for one or two months. Cumulating weeks of unemployment over the year takes account of these interrupted spells of unemployment without going so far as to count time outside the labor force as unemployment.

The inequality of unemployment extends to all demographic groups. If we look at the way unemployment is shared within each age-race-sex subgroup, we find that most of the differences between subgroups comes from differences in the share of workers who experience any unemployment. Among adult males, 25-64, 12 percent of white workers and 20 percent of black workers had at least one week of unemployment. In the case of young men, age 18-24, 31 percent of

white workers and 43 percent of black workers were unemployed sometime during 1977. Similar differences appeared when we compared adult women workers with young women workers. Within age-race-sex subgroups, wide differences exist in the share of workers experiencing some unemployment in given year; however, the distributions of total weeks of unemployment among workers with unemployment were similar for all subgroups. The unemployment each group experienced was concentrated heavily among a small percentage of workers. Within all major age-race-sex groups, about 40 per cent of the unemployed suffered three-quarters of all unemployment.

In summary, the vast bulk of unemployment over a one year period takes place among a small share of the unemployed and a very much smaller share of workers. Of the 17.6 million 18-64 year olds who experienced some unemployment, about 7.1 million were unemployed 15 weeks or more. These 7.1 million workers, who made up less than 7 per cent of all who worked or looked for work in 1977, account for about 75 per cent of total weeks of unemployment. Even among young workers, only a small share of workers bear most of the unemployment. The full year figures give a different impression from the monthly figures. In the typical month in 1977, only 560,000, or 23 per cent of the 2.4 million unemployed 18 to 24 year-olds, had been unemployed for 15

weeks or more in their current spell of unemployment. The full year data show that 2.5 million young workers experienced 15 or more weeks of unemployment during 1977. Although these 2.5 million workers were only 36 per cent of those experiencing unemployment and 11 per cent of all young workers, they accounted for 72 per cent of total weeks of unemployment.

The concentration of unemployment among a group with substantial unemployment suggests that it is appropriate to speak of an identifiable group of severely, or structurally, unemployed workers. However, unemployment experience in one year may not be enough to classify someone as structurally unemployed. It is possible that unemployment is more evenly spread across individuals over a two-year period. If so, unemployment might not be as concentrated as data covering only one year suggest.

To shed light on these questions, we looked at the March 1978 employment status of workers with and without unemployment experience during 1977. The results indicated that the high concentration of unemployment extends beyond one year. It appears that unemployment experience during 1977 is a much better predictor of March 1978 employment status than is age, race, or sex. As Table 1 shows, those workers who were fully employed in 1977 generally continued their successful experience in March 1978. In sharp contrast, those individuals with any unemployment in 1977

faced very high unemployment rates in March 1978. Among those experiencing 15 weeks or more unemployment in 1977, the March 1978 unemployment rates were even higher than the 20% plus rates found among those with any unemployment.

We have shown that unemployment in a period of reasonably high employment is concentrated within the group that suffers substantial unemployment. These results give us confidence that those with substantial unemployment in a high employment year are an identifiable group that may be reasonably viewed as structurally unemployed. We now turn to examine the composition of this group of workers.

Table 1

Workers With and Without Unemployment in 1977, by Age, Race, Sex and Unemployment Rate in March 1978

	Males				Females			
	White 18-24	Nonwhite 18-24	White 25-64	Nonwhite 25-64	White 18-24	Nonwhite 18-24	White 25-64	Nonwhite 25-64
Workers with Unemployment As percent of all workers	31	43	12	19	36	46	13	20
Unemployment Rate, March 1978	22.3	44.4	22.0	24.6	19.2	37.1	16.8	32.7
Workers with 15+ weeks of Unemployment As percent of all workers	11	22	5	11	7	20	5	10
Unemployment Rate, March 1978	29.8	55.0	31.0	34.0	31.1	41.3	24.4	40.9
Workers with no Unemployment As percent of all workers	69	57	88	81	64	54	87	80
Unemployment Rate, March 1978	5.0	7.6	1.3	2.6	5.2	10.4	1.7	2.5

Note: The workers category is this table is made up of persons who worked or looked for work sometime during 1977.
Source: Tabulations from the March 1978 Current Population Survey.

B. Identifying the Structurally Unemployed

There are two possible approaches to examining how structural unemployment varies across demographic groups. One is to determine the share of unemployment identified as structural that is borne by each age-race-sex group. This answers the question, "Given a structurally unemployed individual, what are the chances the person is a young black man, a white adult woman, or a person in any other group?" The second approach is to look at the share of each demographic group that experiences structural unemployment. These data allow us to look at how the incidence of structural unemployment varies across groups. It is important to utilize both approaches in devising employment and training programs. As we show below, the incidence of structural unemployment is very high for some groups (such as young black men), which accounts for only a small portion of total structural unemployment.

To determine who experiences substantial unemployment in relatively high employment periods, we first specify three measures of "substantial unemployment." The three are: (1) unemployed 15 weeks or more during 1973 (or 1977) and unemployed in March 1974 (or March 1978); (2) unemployed during 1973 (or 1977) and unemployed for a spell of 8 weeks or more in March 1974 (or March 1978); and (3) unemployed

15 weeks or more during 1973 (or 1977) and unemployed for a spell of 8 weeks or more in March 1974 (or March 1978). Based on these measures, we derive numbers for total structural unemployment and for the composition by age, race, sex and other categories. The numbers appear in Tables 2 and 3.

The most striking result is that the composition by age, race, and sex, is virtually unaffected by the measure of unemployment or the year. While the size of the structurally unemployed pool varies with the stringency of the unemployment measure and the time period, the share of the structural unemployment burden borne by youths, adults, men, women, whites, and blacks remains about the same. Almost 2 out of 5 structurally unemployed are young (ages 16 to 24), about 1 of 8 are nonwhite youth, 1 of 3 are women, and over 1 of 3 are prime-age men. Of all the age-race-sex categories, prime-age white men make up the highest share of the structurally unemployed pool. This conclusion may be surprising to those who focus on the low unemployment rates of prime-age white men.[12] However, it is not surprising given that prime-age white men make up the highest share of the total labor force and given our earlier results showing their unemployment is concentrated over a small share of the group.[13]

Table 2

The Composition of the Structurally Unemployed,
Based on Unemployment Experience in 1973 and 1974

	Unemployed 15 weeks or more, 1973				Unemployed in 1973	
	Unemployed, 8+ weeks March 1974		Unemployed, March 1974		Unemployed 8+ weeks March 1974	
	Number (000's)	Percent	Number (000's)	Percent	Number (000's)	Percent
All Groups	756	100	1097	100	1320	100
Males	489	65	698	64	833	63
Age, 16-24	185	24	279	25	312	24
White	142	19	211	19	221	17
Nonwhite	43	6	68	6	91	7
Age, 25-64	284	38	386	35	494	37
White	210	28	295	27	383	29
Nonwhite	74	10	91	8	111	8
Age, 65+	20	3	32	3	27	2
Females	267	35	399	36	487	37
Age, 16-24	96	13	150	14	176	13
White	66	9	101	9	131	10
Nonwhite	30	4	49	5	45	3
Age, 25-64	163	22	235	21	290	22
White	134	18	195	18	245	19
Nonwhite	29	4	40	3	45	3
Age 65+	7	1	14	1	9	1

Source: Tabulations from March 1974 Current Population Survey.

Table 3

The Composition of the Structurally Unemployed,
Based on Unemployment Experience in 1977 and 1978

	Unemployed 15 weeks or more, 1977				Unemployed in 1977	
	Unemployed, 8+ weeks March 1978		Unemployed, March 1978		Unemployed 8+ weeks March 1978	
	Number (000's)	Percent	Number (000's)	Percent	Number (000's)	Percent
All Groups	1542	100	2142	100	2383	100
Males	1017	64	1379	64	1525	64
Age, 16-24	415	27	572	27	658	28
White	271	18	390	18	467	20
Nonwhite	144	8	182	8	191	8
Age, 25-64	574	36	773	36	830	35
White	472	29	621	29	687	29
Nonwhite	102	7	152	7	143	6
Age, 65+	29	2	35	2	37	2
Females	525	34	763	36	858	36
Age, 16-24	208	13	323	15	377	16
White	132	8	212	10	255	11
Nonwhite	76	5	111	5	122	5
Age, 25-64	306	20	421	20	462	19
White	206	13	278	13	334	14
Nonwhite	99	6	143	7	129	5
Age 65+	11	1	19	1	19	1

Source: Tabulations from March 1974 Current Population Survey.

These results show how much structural unemployment each demographic group suffers. To examine the incidence of structural unemployment, or how likely any member of a group is to suffer structural unemployment, we must look at each group to see what fraction of the group experienced structural unemployment. Here, we find familiar results. The incidence of structural unemployment is highest among young black men. Of those young black men who worked or looked for work in 1977, nearly 1 of 10 met the strictest test of structural unemployment. In contrast, only 1 of 100 prime-age male workers were structurally unemployed on the basis of this measure.

Turning to other characteristics, we find that a majority (57 percent) of the structurally unemployed completed 12 years of schooling and that most lived outside the largest 35 SMSA's. However, the incidence of structural unemployment was higher for the less educated than for high school graduates and higher for those living in the largest 10 SMSA's than for those living elsewhere.

The total number of structurally unemployed as derived from the three measures of substantial unemployment is well under the number of workers who experienced many weeks of unemployment in 1977. Of the 7.5 million workers who were unemployed 15 weeks or more in 1977, only 1.5 million met the most stringent test of being unemployed 8 weeks or more

in March 1978. An additional .6 million were unemployed in March 1978, but for less than 8 weeks. Of the remaining 5.9 million, 4.3 million were employed and 1.0 million were not in the labor force in March 1978. (Only 37,000 of those out of labor force were discouraged workers.)

These numbers indicate that a reasonable estimate of the average level of structural unemployment is 1.5 million workers. However, this number no doubt understates the number of workers who should be classified as structurally unemployed based on their full year experiences. For example, many of the 4.3 million employed and the .6 million short-term unemployed in March 1978 will face substantial unemployment some other time in 1978. It is difficult to estimate the total number with consistent patterns of substantial unemployment without data on the same individuals for a period of high employment years.

C. Work Experience of the Structurally Unemployed

In spite of their chronic unemployment experience, most of the structurally unemployed have considerable work experience. Of the workers unemployed 15+ weeks in 1977 and 8+ weeks in March 1978, almost three-quarters worked for pay during 1977. These workers averaged about 20 weeks of employment. Nearly all age-race-sex categories of the structurally unemployed remained in the labor force almost the entire year. Young men, 18-24, averaged 48 weeks in the labor force; adult women, 25-64, averaged 46 weeks; and adult men averaged 51 weeks.

Those structurally unemployed according to the strictest measure worked in all the major occupational groupings. About 20 percent had experience in white collar occupations; almost 40% had experience in semi-skilled blue collar positions. When these structurally unemployed found jobs, they worked in all the major industries. Only the construction industry was heavily overrepresented among the structurally unemployed. Among white adult men, construction was an especially important industry. While 10% of the white adult men with work were employed in the construction industry, about 35% of the structually unemployed came from construction jobs. It is likely that many of these men

face substantial seasonal unemployment; their unemployment difficulties are probably due to industry employment fluctuations, and not to a lack of marketable skills. Some of the construction workers experiencing chronic unemployment might be considered as voluntarily unemployed in the sense that they have chosen a high-wage, unstable occupation over a moderate-wage, stable occupation. However, unemployment of most chronically unemployed construction workers cannot be written off in this way. Among white adult men in the construction industry, 60 percent of those classified as structurally unemployed earned under $7500 per year.

D. Structural Unemployment and Inadequate Incomes

This section focusses on two questions: What share of the structurally unemployed come from families with poverty and near-poverty incomes? And, to what the extent does structural unemployment contribute to low income status? As above, we use several measures of unemployment experience to approximate structural unemployment.

The first results show that the structurally unemployed are not primarily from poor and near-poor families. Among those who experienced 15 weeks or more unemployment in 1977 and 8 weeks or more by March 1978, about half were in families with 1977 incomes of $10,000 or more; over 30% were in families with incomes of $15,000 or more. Using poverty thresholds that take account of income and family size, we find that about 20 percent of the structurally unemployed were in poor families and another 30 percent were in near-poor families (with incomes between 1 and 2 times the poverty line). These results hold for youth and adults, for a variety of measures of unemployment experience, and for the 1973-74 and the 1977-78 periods.

Although workers from middle and upper income families suffered about half the structural unemployment, they account for about 70 percent of all workers. Thus,

their share of structural unemployment was lower than their share of the total population. Put another way, the incidence of structural unemployment was much higher among low income families than among middle and high income families. Looking at 1977 experience, we find that adult males with 15 weeks or more unemployment made up about 30 percent of adult male workers in poor families, 15 percent of adult male workers in near-poor families, but only 3-5 percent of adult male workers in middle and upper income families.

Still, structural unemployment was not the primary cause of low income status. The majority of workers in poor and near-poor families did not experience any unemployment in 1977. Among males, none were low earners ($100 or less per week) in poor or near-poor families, only about 16 percent faced 15 or more weeks of unemployment in 1977. Apparently, low weekly earnings contributed more to low income status than did long-term unemployment. Of the 1.7 million adult male workers in poor families, 503,000 endured 15 weeks or more unemployment while 650,000 had no unemployment but earned less than $100 per week. In the case of adult female workers, the problem of low weekly earnings was even more important. Of the 1.7 million female workers in poor families, 365,000 were unemployed 15 weeks or more, while 860,000 had no unemployment but earned less than $100 per week.

The adult workers in poor families who did experience long-term unemployment were frequently heads of families with children under 18. Such family heads accounted for about half the long-term adult unemployment in poor families. However, most of the workers heading poor and near-poor families did not experience any unemployment during 1977.

In summary, we find first that structural unemployment does not occur primarily in low income families. While poor and near-poor families bear far more than their share of structural unemployment, most of the structurally unemployed live in middle or upper income families. Second, we find that the majority of workers in low income families are not among the structurally unemployed. Long-term unemployment does account for the low income status of many poor and near-poor families, but the problem of low earnings appears to have an even larger impact.

III. Breaking Down Barriers to Unsubsidized Employment

Assessing the causes of structural unemployment and suggesting how to overcome them are tasks that go beyond the scope of this paper. However, it is possible to draw some implications for policy from the data and the analysis appearing in earlier sections. We limit the discussion to issues involving the appropriate target groups for employment and training programs and the best method for overcoming barriers to unsubsidized employment.

Those who explain structural unemployment by deficiencies in individual workers tend to see lack of education and training as the primary barrier to unsubsidized employment. According to this view, increasing aggregate demand will largely bid up wages of trained workers while doing little to increase employment of untrained, structurally unemployed workers.

If this view of the problem and its solution were correct, we would expect to find that the structurally unemployed either cannot find any job or earn very low earnings when they do work. While this picture is valid for some of the structurally unemployed, it is inaccurate for most. As noted above, 75 percent of the structurally unemployed in the 1977-early 1978 period did find jobs in 1977. These workers averaged 20 weeks of employment.

Thus, simply adding weeks of employment in existing jobs (perhaps by increasing demand) could have overcome most of the structural unemployment problem.[14]

For those structurally unemployed who leave low wage jobs in search of better jobs, the simple policy of adding weeks of employment in existing jobs would be inadequate. We do not have the data showing the extent to which voluntary movements between jobs account for structural unemployment. However, by examining the weekly earnings of those who did work, we can see how many of the structurally unemployed had sufficient skills to earn at least $150 per week. The numbers in Table 4 show the share of the structurally unemployed who worked in 1977 for low and moderate earnings. The nature of the structural problem appears to differ by subgroup. Very few women or young nonwhite men were able to find jobs paying $150 per week. In fact, well over 70% of these structurally unemployed groups either did not work or worked for less than $100 per week. On the other hand, high shares of prime aged male workers found jobs paying at least $150 per week. Thus, while lack of skills appeared important for some groups, one-third of the structurally unemployed had enough skills to obtain reasonably good jobs for part of the year.

Table 4

The Distribution of Weekly Earnings Among Workers Unemployed 15 Weeks or More in 1977 and Unemployed 8 weeks or More in March

	Numbers (in 000's)	Percent in Earnings Bracket			
		$ 0	$1- 99	$100 - 149	$150+
White males, 18-24	230	11	27	23	39
Nonwhite males, 18-24	129	43	33	14	10
White males, 25-64	472	19	9	14	58
Nonwhite males 25-64	102	32	16	12	40
White females, 18-24	113	24	52	9	14
Nonwhite females, 18-24	66	39	39	14	5
White females, 25-64	207	27	27	17	30
Nonwhite females, 25-64	99	46	17	21	14
Total, All Groups	1417	25	23	16	36

Source: Tabulations from the March 1978 Current Population Survey

Further evidence on the work abilities of many the structurally unemployed comes from data on educational attainment. Note in Table 5 that about 3 out of 5 of the structurally unemployed completed 12 or more years of schooling. In general, the structurally unemployed did have less education than the average worker. However, differentials in high school completion between the structurally unemployed and other workers were small for all subgroups except prime-age white men.

These results indicate that direct employment stimulus might reduce structural unemployment substantially. Policies to stimulate demand for the structurally unemployed might include targeted tax credits, incentives for employers to avoid seasonal layoffs, and aggregate demand stimulus accompanied by anti-inflation policies. Special education and training are probably not necessary policies for many of the structurally unemployed. However, policies to upgrade skills still have an important role for many of the structurally unemployed as well as for many working steadily at very low wage jobs.

The possible inclusion of the underemployed raises the issue of which workers make up the appropriate target group for employment and training programs. It is clear from our results and from other work that many of those experiencing chronic problems of inadequate earnings do not

Table 5

Educational Attainment of Structurally Unemployed and All Workers

	Share of Workers with 12+ Years of Schooling Structurally	
	Unemployed[a]	All Workers[b]
White males, 18-24	67	78
Nonwhite males, 18-24	48	63
White males, 25-64	55	76
Nonwhites males, 25-64	51	60
White females, 18-24	80	85
Nonwhite females, 18-24	85	77
White females, 25-64	66	79
Nonwhite females, 25-64	52	64
Total, All Groups	61	77

[a] These are workers with 15 or more weeks of unemployment in 1977 and 8 or more weeks of unemployment in March 1978.

[b] These are individuals who worked or looked for work in 1977.

Source: March 1978 Current Population Survey

experience structural unemployment. In fact, as noted above, the structurally unemployed make up only a small share of the country's low earners. It would be inequitable to exclude underemployed persons with earnings prospects as poor as the structurally unemployed from employment and training programs. For this reason, the Comprehensive Employment and Training Act (CETA) does mandate the provision of employment and training to the underemployed as well as the unemployed.

Given that resources are too scarce to cover the several million long-term unemployed and the underemployed, the government must decide which workers deserve priority in employment and training programs. It is natural that the workers in the poorest families should gain first access to the special programs. For these workers, the lack of an adequate paying job causes income deprivation for the family. It turns out that income-conditioning does exclude very large numbers of the structurally unemployed. As noted above, 30 per cent of those experiencing long-term unemployment in 1977 and unemployment in March 1978 were in families with incomes of $15,000 or more. To target resources on families most in need of additional earnings, the new CETA Title II programs limits participation to persons in families whose

income over the 6 months prior to entry was no more than 70 per cent of the Bureau of Labor Statistics lower living level.

Does the emphasis on the low income component of the structurally unemployed alter our earlier conclusions about the numbers requiring education and training? Apparently, yes. Of all workers unemployed 15 weeks or more in 1977 and unemployed in March 1978, almost 60 per cent had graduated high school and about half had worked at jobs paying more than $100 per week. But, structurally unemployed workers in families with poverty or near-poverty incomes had less education and work experience. Of the low income structurally unemployed, over half had not completed high school and only one-third had earned as much as $100 per week in 1977.

It is worth highlighting two conclusions that emerge from the analysis. First, much structural unemployment occurs among workers from moderate or high income families; many of these workers have considerable work experience at adequate paying jobs, and the majority have graduated high school. These workers are not the appropriate targets for government employment and training programs. Nor is it clear that high expenditure efforts should be put forward on their behalf. However, we should examine the causes of their unemployment and should attempt to come up with

solutions. If we could stimulate aggregage demand without excessive increases in inflation, most of these workers would not require special government programs to become more fully employed. Other solutions might involve attempting to reduce seasonality and to improve transition from one job to another, perhaps with such tools as relocation allowances.

A second part of structural unemployment hits workers from low income families. Few of these workers earn adequate weekly amounts when they do work. Many need remedial education. However, the size of the potential pool of low earners in poverty or near-poverty families is enormous, numbering over 6 million workers. The Administration has attempted to set priorities within this group by proposing a jobs component in welfare reform that assures employment for all primary earners in families with children. If we are to raise the earnings of all the low earners in poor families, we will have to achieve substantial success over a long period of years in our employment and training efforts. Even the more modest goal of substantially reducing structural unemployment among low income workers will require that many workers find jobs at low weekly earnings acceptable.

FOOTNOTES

1. See B. Fleisher, Labor Economics (1970), pp. 267-271, for a discussion of the geographical nature of structural unemployment.

2. See J. Tobin and M. Bailey, "Macroeconomic Effects of Selective Public Employment and Wage Subsidies, Brookings Papers Economic Activity (BPEA) 2:1977 pp. 511-545; and R. Hall, "Why is the Unemployment Rate So High at Full Employment, BPEA 3:1970, pp. 369-411; and "The Process of Inflation in the Labor Market," BPEA 2:1974. pp. 343-411.

3. See A. Okun, "Inflation: Its Mechanics and Welfare Costs" BPEA 2:1977; pp. 351-403.

4. M.J. Piore, "Unemployment and Inflation: An Alternative View," Challenge, May/June 1978.

5. See Glen Cain and Dennis Aigner, "Statistical Theories of Discrimination in the Labor Market", Industrial Labor Relations Review, January 1977.

6. See The Current Population Survey, Design and Methodology, Technical Paper #40, Bureau of the Census.

7. To derive the 1977 annual average unemployment rate from the March 1978 CPS, we divided the total weeks unemployed during 1977 by the total weeks in the labor force. The rate calculated in this manner was only 6.1% for 1977 as a whole. It turns out that annual unemployment rates derived from the March 1976 and March 1977 surveys were also considerably smaller than the annual rates drawn from the 12 monthly surveys. We do not have a full explanation for these results.

8. This is an application of the Lorenze Curve, the normal use of which is to measure income inequality. See A. Sen, Income Inequality, 1973, Oxford, Clarendon Press, for a discussion of the Lorenze Curve.

9. M. Wachter, for example, in "The Nature of the Unemployment Problem", Challenge, May/June 1978, asserts that most unemployment is short term.

10. K. Clark and L. Summers, "Labor Force Transitions and Unemployment", Technical Analysis Paper No. 59, Office of the Assistant Secretary for Policy, Evaluation, and Research, U.S. Department of Labor, October 1978.

11. More formally, in the first approach, we compute the probability of being in a particular age-race-sex group conditional on the fact that a person is structurally unemployed, $P(ARS/U^S)$; and in the second approach we compute the probability of being structurally unemployed conditional on the age-race-sex group of the person, $P(u^S/ARS)$.

12. See Wachter, op. cit, and G.E. Johnson and A. Blakemore, "The Potential Efficacy of Employment Policy in Reducing the Non-Inflationary Unemployment Rate", American Economic Association Proceedings, 1978.

13. More formally, note that $P(ARS/U^S) = P(U^S/ARS)\ P(ARS)/P(U^S)$. For black male youth the conditional probability of being structurally unemployed is relatively high, $P(U^S/ARS)$, but the probability of falling into that group is relatively low, $P(ARS)$. The reverse is true for prime age white males.

14. It does not follow that increasing aggregate demand would have been a viable solution since structural problems unrelated to the skills of the unemployed could have fueled inflation or limited the increases in demand for the structurally unemployed.

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